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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/001,290	11/01/2001	Torbjorn Nilsson	031941-095	2148

27045 7590 09/08/2003

ERICSSON INC.  
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EXAMINER

MORAN, TIMOTHY J

ART UNIT PAPER NUMBER

2878

DATE MAILED: 09/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/001,290	<b>Applicant(s)</b> NILSSON ET AL.	
	<b>Examiner</b> Timothy J. Moran	<b>Art Unit</b> 2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 28-54 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 28-50 and 52-54 is/are rejected.
- 7) ☒ Claim(s) 51 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☒ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                     | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____.  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                            | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>0202</u> . | 6) <input type="checkbox"/> Other:  |

## **DETAILED ACTION**

### ***Priority***

Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Sweden on November 1, 2000. It is noted, however, that applicant has not filed a certified copy of the 0003985-9 application as required by 35 U.S.C. 119(b).

### ***International Reports***

The International Search Report completed May 23, 2001 has been considered.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 28-30, 35-47, 49-50, and 52-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kenway, U. S. Patent No. 6,346,704. Regarding claim 28, Kenway describes an arrangement (fig. 1) for inspection of a multilayer structure (col. 10, lines 41-45) comprising a heating arrangement for heating the structure (12, col. 6, lines 15-19), an imaging detecting arrangement (14 and 18, col. 6, lines 27-31), and processing means (24, col. 6, lines 27-31) for establishing the presence of cavities (delaminations described in col. 4, lines 45-50). The term "delamination" implies that the structure comprises a first layer and a second layer. The use of joint layers is well known in the art of multilayer structures. Therefore, it would have been obvious to one of ordinary skill in the art to provide for a joint layer in the structure of Kenway to ensure adhesion of the layers.

Regarding claim 29, Kenway describes the use of an infrared detector (abstract).

Regarding claim 30, the heating arrangement of Kenway (12, col. 6, lines 15-19) is understood to enable fast heating.

Regarding claim 35, Kenway teaches the inspection of a number of structures (fig. 1).

Regarding claims 36-38, the arrangement of Kenway is considered to be mobile and manually or automatically operable.

Regarding claims 39-40, Kenway does not teach ranges of the thermal conductivity values of the materials. Therefore it is considered that the arrangement of Kenway is applicable to the structures describes in claims 39-40.

Regarding claims 41-42, it is considered that the materials described are commonly used in multilayer structures. Therefore it would have been obvious to one of ordinary skill in the art to use such materials in the arrangement of Kenway for the advantage of thermal analysis.

Regarding claim 43, Kenway teaches that the arrangement heats the second layer to approximately 100 C (col. 10, lines 17-21).

Regarding claims 44 and 45, the method is considered to be inherent in the use of the invention of claims 28 and 29.

Regarding claims 46 and 47, the arrangement of Kenway is considered to be manually or automatically operable.

Regarding claim 49, Kenway teaches that the arrangement heats the second layer to approximately 100 C (col. 10, lines 17-21).

Regarding claim 50, it is considered that the imaging of Kenway inherently determines the size of the cavities.

Regarding claims 52-53, the use of alarms based on defect sizes is well known in the art of defect detection. Therefore it would have been obvious to use such an alarm in the invention of Kenway for the advantage of enable proper responses to detected defects.

Regarding claim 54, Kenway does not teach ranges of the thermal conductivity values of the materials. Therefore it is considered that the arrangement of Kenway is applicable to the structures describes in claims 54. Regarding the choice of materials, it is considered that the materials described are commonly used in multilayer structures.

Therefore it would have been obvious to one of ordinary skill in the art to use such materials in the arrangement of Kenway for the advantage of thermal analysis.

Claims 28-34, 36-42, 44-48, 50, and 52-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sun, U. S. Patent No. 6,517,236. Regarding claim 28, Sun describes an arrangement (fig. 1) for inspection of a multilayer structure (col. 2, lines 45-51) comprising a heating arrangement for heating the structure (lamp 104, fig. 4), an imaging detecting arrangement (camera 406, fig. 4), and processing means (412, fig. 4) for establishing the presence of cavities (col. 2, lines 66-67). The use of joint layers is well known in the art of multilayer structures. Therefore, it would have been obvious to one of ordinary skill in the art to provide for a joint layer in the structure of Kenway to ensure adhesion of the layers.

Regarding claim 29, Sun describes the use of an infrared detector (fig. 4).

Regarding claim 30, the heating arrangement of Sun (fig. 4) is understood to enable fast heating.

Regarding claim 31, Sun teaches simultaneous heating and imaging (fig. 4).

Regarding claim 32, Sun teaches the use of transient heating (col. 2, line 45 – col. 3, line 6).

Regarding claims 33-34, Sun teaches the detection of cavities (col. 2, lines 66-67).

Regarding claims 36-38, the arrangement of Sun is considered to be mobile and manually or automatically operable.

Regarding claims 39-40, Sun does not teach ranges of the thermal conductivity values of the materials. Therefore it is considered that the arrangement of Kenway is applicable to the structures describes in claims 39-40.

Regarding claims 41-42, it is considered that the materials described are commonly used in multilayer structures. Therefore it would have been obvious to one of ordinary skill in the art to use such materials in the arrangement of Sun for the advantage of thermal analysis.

Regarding claims 44 and 45, the method is considered to be inherent in the use of the invention of claims 27 and 28.

Regarding claims 46 and 47, the arrangement of Sun is considered to be mobile and manually or automatically operable.

Regarding claim 48, Sun teaches the use of transient heating (col. 2, line 45 – col. 3, line 6).

Regarding claim 50, it is considered that the imaging of Sun inherently determines the size of the cavities.

Regarding claims 52-53, the use of alarms based on defect sizes is well known in the art of defect detection. Therefore it would have been obvious to use such an alarm in the invention of Sun for the advantage of enable proper responses to detected defects.

Regarding claim 54, Sun does not teach ranges of the thermal conductivity values of the materials. Therefore it is considered that the arrangement of Sun is applicable to the structures describes in claims 54. Regarding the choice of materials, it

is considered that the materials described are commonly used in multilayer structures. Therefore it would have been obvious to one of ordinary skill in the art to use such materials in the arrangement of Sun for the advantage of thermal analysis.

### ***Allowable Subject Matter***

Claim 51 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The comparison of temperature distribution patterns with reference values to determine cavity sizes is considered to be a nonobvious use of the prior art inventions such as Kenway and Sun.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Moran whose telephone number is 703-305-0849. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on 703-308-4852. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.



Application/Control Number: 10/001,290

Page 8

Art Unit: 2878

T.M.

TM

August 29, 2003

*Constantine*  
CONSTANTINE HANNAHER  
PRIMARY EXAMINER  
GROUP ART UNIT 2378